

Myofibroma in the Palm Presenting with Median Nerve Compression Symptoms

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Summary: A myofibroma is a benign proliferation of myofibroblasts in the connective tissue. Solitary myofibromas are a rare finding especially in an adult. We report a case of a 23-year-old man presenting with an enlarging mass over his right palm. The patient is an active weight lifter. He reported numbness and tingling in the median nerve distribution. Nerve conduction studies and magnetic resonance imaging scans suggested a tumor involving or compressing the median nerve. The final diagnosis of myofibroma was made only after the histopathological diagnosis. (*Plast Reconstr Surg Glob Open* 2014;2:e204; doi: 10.1097/GOX.000000000000153; Published online 22 August 2014.)

Myofibroma and myofibromatosis have been described under different names since 1951. These lesions are a benign fibroblastic and myofibroblastic proliferation containing a biphasic presentation of spindle-shaped cells surrounding a central zone of less differentiated cells focally arranged in a hemangiopericytoma-like pattern.¹⁻⁴ Classically, these lesions are described in children younger than 2 years, with two thirds present at birth, and rarely in adults. Myofibromatosis constitute the majority of soft-tissue tumors usually seen in the new born. Infantile/congenital myofibromatosis is said to be genetically transmitted.⁵ The typical clinical presentation shows variable growth pattern of a painless purple to pink soft-tissue mass, often showing secondary ulceration. Controversy exists as to an autosomal dominant or recessive inheritance vs sporadic occurrence.

Sixty-one cases of myofibromas were reviewed by Chung and Enzinger⁵ in 1981. They distinguished 2 forms: multicentric and solitary. They found that 75% were multicentric and 25% solitary. The multicentric

form occurred almost exclusively in neonates and infants. The solitary form was predominantly found in the first year of life but also can occur in adolescence and young adults.⁵⁻⁸ In nonvisceral myofibromas, the prognosis is good. The lesions usually regress spontaneously and do not recur postoperatively.⁵

CASE REPORT

A 23-year-old man of middle-eastern decent presented with an enlarging mass over his right palm that he had noted for about 3 months prior. The patient initially attributed the mass to be enlarged muscle secondary to weight lifting. He reported numbness and tingling in the median nerve distribution. Physical examination revealed a mass in the mid palm with a positive Tinnell's sign. Our diagnostic work-up for this patient included nerve conduction studies, radiographs, and magnetic resonance imaging. Nerve conduction studies revealed compression at the median nerve. The findings from magnetic resonance imaging showed a 2.0-cm nerve sheath tumor of median nerve at the axial level of proximal third metacarpal (Fig. 1).

Through an extended carpal tunnel incision across the wrist crease, the median nerve was found to be compressed by the soft-tissue tumor originating from the lumbrical of the index finger. It was completely excised. The pathology report showed a myofibroma with negative s-100 and positive smooth muscle actin (Figs. 2, 3).

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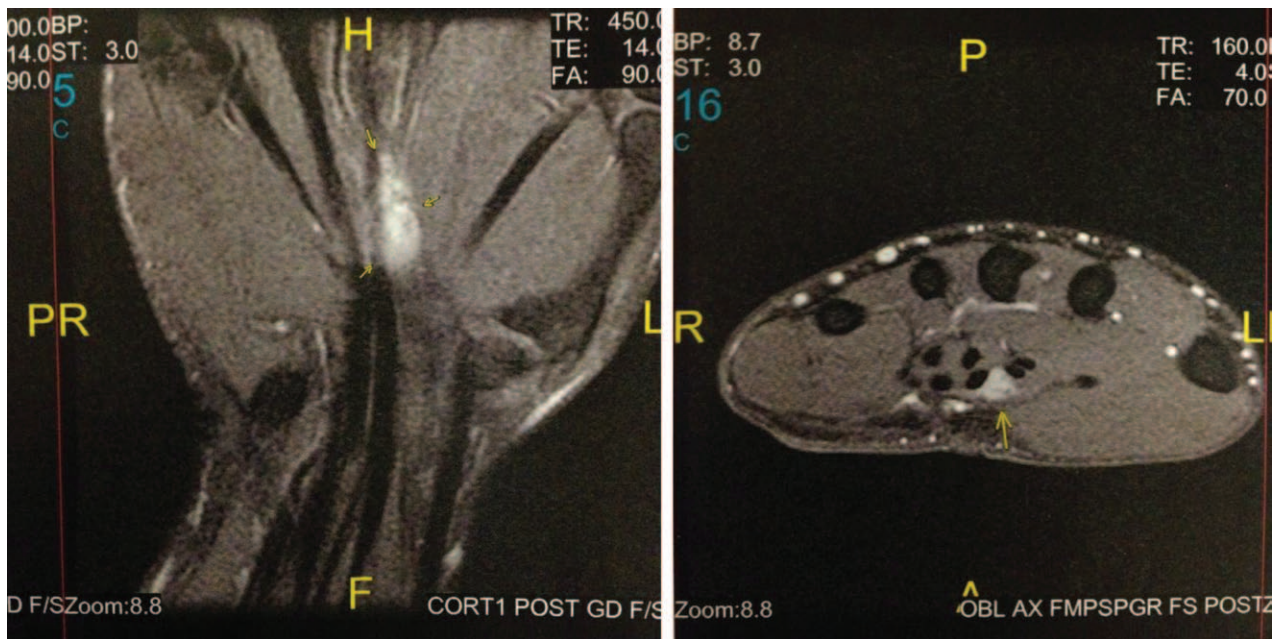


Fig. 1. A, Magnetic resonance imaging (MRI) image of mass in palm. B, MRI image of mass in carpal tunnel.

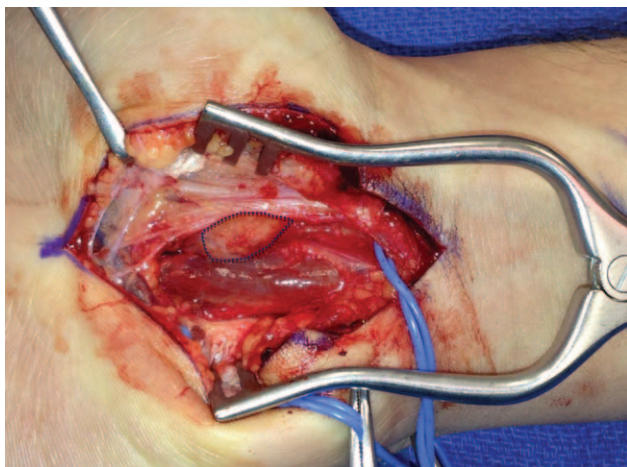


Fig. 2. Intraoperative view of palm with myofibroma pushing against the median nerve.

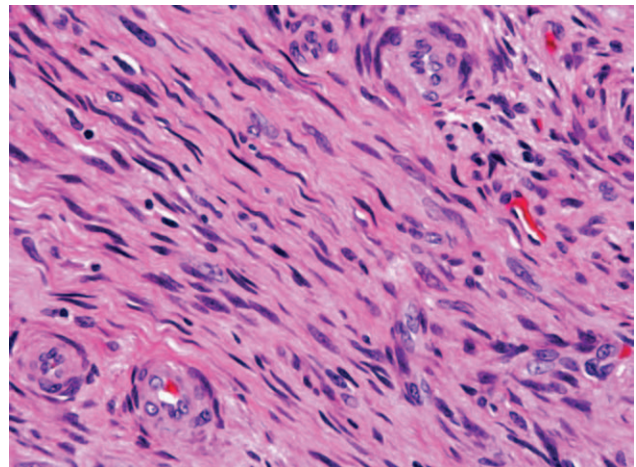


Fig. 3. Bundle of spindled myofibroblasts (hematoxylin and eosin stain, 400x magnification).

DISCUSSION

This is an unusual case of median nerve compression within the carpal canal from a soft-tissue tumor. On the basis of distinct clinical and histologic features, there are 4 categories of fibroblastic/myofibroblastic lesions that are often associated with history of injury: (1) reactive lesions of which nodular fasciitis is the prototype; (2) fibromatoses, locally recurring but nonmetastasizing lesions; (3) sarcomas with fibroblastic and/or myofibroblastic features that range in behavior from low to high grade; and (4) fibroblastic/myofibroblastic proliferations of infancy and childhood.⁹ Myofibromas have historically been categorized as congenital despite mul-

iple appearances in adults, and there are limited studies on why myofibromas occur in adults. In our case, this patient was an avid weight lifter, and the location of the myofibroma is consistent with direct trauma from the weight. Just as trauma is shown to induce these other fibroblastic tumors, the trauma of weight lifting may have induced or contributed this patient's pathology.¹⁰⁻¹⁷ Scientific studies underway may further clarify the relationship of inflammation and tumor formation.

PATIENT CONSENT

Patient provided written consent for the use of his images.

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